

AMENDMENTS TO THE CLAIMS

Please amend the claims as indicated below.

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Currently Amended) A method for the heat treatment of solids containing iron oxide, in which fine-grained solids are heated to a temperature of about 450 to 950°C in a fluidized-bed reactor, comprising introducing the solids into the reactor, introducing a first gas or gas mixture from below through at least one preferably central gas supply tube into a mixing chamber of the reactor located above the upper orifice region of the gas supply tube, the at least one gas supply tube being at least partly surrounded by a stationary annular fluidized bed which is fluidized by supplying fluidizing gas, wherein the gas flowing through the at least one gas supply tube entrains solids from the fluidized bed into the mixing chamber when passing through the upper orifice region of the at least one gas supply tube, and adjusting the gas velocities of the first gas or gas mixture and of the fluidizing gas for the annular fluidized bed such that the Particle-Froude-Numbers in the at least one gas supply tube are between 1 and 100, in the annular fluidized bed between 0.02 and 2, and in the mixing chamber between 0.3 and 30, and removing treated solids from the reactor.

Claim 2 (Previously Presented) The method as claimed in claim 1, wherein the Particle-Froude-Number in the at least one gas supply tube is between 1.15 and 20.

Claim 3 (Previously Presented) The method as claimed in claim 1 wherein the Particle-Froude-Number in the annular fluidized bed is between 0.115 and 1.15.

Claim 4 (Previously Presented) The method as claimed in claim 1, wherein the Particle-Froude-Number in the mixing chamber is between 0.37 and 3.7.

Claim 5 (Previously Presented) The method as claimed in claim 1, wherein the bed height of solids in the reactor is adjusted such that the annular fluidized bed at least partly extends beyond the upper orifice end of the at least one gas supply tube.

Claim 6 (Previously Presented) The method as claimed in claim 1, wherein the solids containing iron oxide are iron-oxide-containing ore.

Claim 7 (Previously Presented) The method as claimed in claim 1, wherein the fluidizing gas introduced into the annular fluidized bed of the reactor is a preheated reduction gas which contains at least 80 % hydrogen.

Claim 8 (Previously Presented) The method as claimed in claim 7, wherein the reduction gas is cleaned in a reprocessing stage downstream of the reactor and is subsequently recirculated to the reactor.

Claim 9 (Previously Presented) The method as claimed in claim 1, wherein downstream of the reactor a second fluidized-bed reactor is provided, the exhaust gases from which are separated from solids in a separator and are introduced into the at least one gas supply tube of the reactor.

Claim 10 (Previously Presented) The method as claimed in claim 1, wherein upstream of the reactor at least one preheating stage is provided for heating the solids.

Claim 11 (Withdrawn) A plant for the heat treatment of solids containing iron oxide comprising a fluidized bed reactor, wherein the reactor comprises at least one gas supply tube at least partly surrounded by an annular chamber in which a stationary annular fluidized bed is located, and a mixing chamber being located above the upper orifice region of the at least one gas supply tube, wherein the gas flowing through the at least one gas supply tube entrains solids from the stationary annular fluidized bed-into the mixing chamber when passing through the upper orifice region of the at least one gas supply tube.

Claim 12 (Withdrawn) The plant as claimed in claim 11, wherein the at least one gas supply tube extends upwards substantially vertically from the lower region of the reactor into the mixing chamber of the reactor.

Claim 13 (Withdrawn) The plant as claimed in claim 11, wherein the gas supply tube is arranged approximately centrally with reference to the cross-sectional area of the reactor.

Claim 14 (Withdrawn) The plant as claimed in claim 11, wherein the gas supply tube has openings-at its shell surface.

Claim 15 (Withdrawn) The plant as claimed in claim 11, further comprising a cyclone for separating solids downstream of the reactor, wherein the cyclone has a solids conduit leading to the annular fluidized bed of the reactor.

Claim 16 (Withdrawn) The plant as claimed in claim 11, further comprising a gas distributor in the annular chamber of the reactor, which divides the chamber into an upper fluidized bed region and a lower gas distributor chamber, wherein the lower gas distributor chamber is connected with a supply conduit for fluidizing gas.

Claim 17 (Withdrawn) The plant as claimed in claim 11, wherein the reactor has a supply conduit for hydrogen, containing reduction gas, which leads to the at least one gas supply tube and is connected with the exhaust gas outlet of a separator of a second reactor downstream of the reactor, and/or the reactor has a supply conduit for preheated hydrogen-containing reduction gas, which leads to the annular chamber.

Claim 18 (Withdrawn) The plant as claimed in claim 11, wherein a preheating stage for the solids is provided upstream of the reactor.